

Emotions as strategic information: effects of other's emotional expressions on fixed-pie perception, demands, and integrative behavior in negotiation

Pietroni, Davide; Kleef, Gerben A. van; Dreu, Carsten K. W. de; Pagliaro, Stefano

Postprint / Postprint
Zeitschriftenartikel / journal article

Zur Verfügung gestellt in Kooperation mit / provided in cooperation with:
www.peerproject.eu

Empfohlene Zitierung / Suggested Citation:

Pietroni, D., Kleef, G. A. v., Dreu, C. K. W. d., & Pagliaro, S. (2008). Emotions as strategic information: effects of other's emotional expressions on fixed-pie perception, demands, and integrative behavior in negotiation. *Journal of Experimental Social Psychology*, 44(6), 1444-1454. <https://doi.org/10.1016/j.jesp.2008.06.007>

Nutzungsbedingungen:

Dieser Text wird unter dem "PEER Licence Agreement zur Verfügung" gestellt. Nähere Auskünfte zum PEER-Projekt finden Sie hier: <http://www.peerproject.eu> Gewährt wird ein nicht exklusives, nicht übertragbares, persönliches und beschränktes Recht auf Nutzung dieses Dokuments. Dieses Dokument ist ausschließlich für den persönlichen, nicht-kommerziellen Gebrauch bestimmt. Auf sämtlichen Kopien dieses Dokuments müssen alle Urheberrechtshinweise und sonstigen Hinweise auf gesetzlichen Schutz beibehalten werden. Sie dürfen dieses Dokument nicht in irgendeiner Weise abändern, noch dürfen Sie dieses Dokument für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, aufführen, vertreiben oder anderweitig nutzen.

Mit der Verwendung dieses Dokuments erkennen Sie die Nutzungsbedingungen an.

gesis
Leibniz-Institut
für Sozialwissenschaften

Terms of use:

This document is made available under the "PEER Licence Agreement ". For more Information regarding the PEER-project see: <http://www.peerproject.eu> This document is solely intended for your personal, non-commercial use. All of the copies of this documents must retain all copyright information and other information regarding legal protection. You are not allowed to alter this document in any way, to copy it for public or commercial purposes, to exhibit the document in public, to perform, distribute or otherwise use the document in public.

By using this particular document, you accept the above-stated conditions of use.

Mitglied der

Leibniz-Gemeinschaft

Accepted Manuscript

Emotions as Strategic Information: Effects of Other's Emotional Expressions on Fixed-Pie Perception, Demands, and Integrative Behavior in Negotiation

Davide Pietroni, Gerben A. Van Kleef, Carsten K.W. De Dreu, Stefano Pagliaro

PII: S0022-1031(08)00107-8
DOI: [10.1016/j.jesp.2008.06.007](https://doi.org/10.1016/j.jesp.2008.06.007)
Reference: YJESP 2109

To appear in: *Journal of Experimental Social Psychology*

Received Date: 24 October 2007
Revised Date: 25 June 2008
Accepted Date: 28 June 2008



Please cite this article as: Pietroni, D., Van Kleef, G.A., De Dreu, C.K.W., Pagliaro, S., Emotions as Strategic Information: Effects of Other's Emotional Expressions on Fixed-Pie Perception, Demands, and Integrative Behavior in Negotiation, *Journal of Experimental Social Psychology* (2008), doi: [10.1016/j.jesp.2008.06.007](https://doi.org/10.1016/j.jesp.2008.06.007)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Running head: EMOTION AND FIXED-PIE PERCEPTION

Emotions as Strategic Information: Effects of Other's Emotional Expressions on Fixed-Pie
Perception, Demands, and Integrative Behavior in Negotiation

Davide Pietroni

University of Chieti-Pescara, Italy

Gerben A. Van Kleef and Carsten K. W. De Dreu

University of Amsterdam, the Netherlands

Stefano Pagliaro

University of Chieti-Pescara, Italy

Preparation of this article was facilitated by a grant from the Netherlands Organisation
for Scientific Research (NWO 451-05-010) awarded to the second author.

Correspondence concerning this article should be addressed to Gerben A. Van Kleef,
University of Amsterdam, Department of Social Psychology, Roetersstraat 15, 1018 WB
Amsterdam, The Netherlands, Tel +31 20 525 6894, Fax +31 20 639 1896, E-mail
g.a.vankleef@uva.nl.

Abstract

Negotiators often fail to reach integrative ("win-win") agreements because they think that their own and other's preferences are diametrically opposed—the so-called fixed-pie perception. We examined how verbal (Experiment 1) and nonverbal (Experiment 2) emotional expressions may reduce fixed-pie perception and promote integrative behavior. In a two-issue computer-simulated negotiation, participants negotiated with a counterpart emitting one of the following emotional response patterns: (1) anger on both issues, (2) anger on participant's high priority issue and happiness on participant's low-priority issue, (3) happiness on high priority issue and anger on low-priority issue, or (4) happiness on both issues. In both studies, the third pattern reduced fixed-pie perception and increased integrative behavior, whereas the second pattern amplified bias and reduced integrative behavior. Implications for how emotions shape social exchange are discussed.

Keywords: EMOTION, FIXED-PIE PERCEPTION, NEGOTIATION, INFORMATION, DEMANDS, INTEGRATIVE BEHAVIOR, WIN-WIN AGREEMENT

Emotions as Strategic Information: Effects of Other's Emotional Expressions on Fixed-Pie Perception, Demands, and Integrative Behavior in Negotiation

Negotiation is one of the most common and constructive ways of dealing with conflict. It can be defined as the joint decision making between interdependent individuals aimed at resolving a perceived divergence of interests (Pruitt & Carnevale, 1993). Successful negotiation is associated with many positive consequences, including satisfaction with outcomes, stable relations between individuals and groups, and social and economic growth. Even though most negotiations allow for integrative ("win-win") agreements that satisfy all parties' needs, negotiators often reach suboptimal outcomes that fail to satisfy parties' goals and thereby undermine stability, satisfaction, and peaceful relations.

One of the main reasons why negotiators often fail to make use of integrative potential in negotiations lies in their inaccurate perceptions of their counterpart's preferences and priorities—the so-called *fixed-pie perception* (Bazerman & Neale, 1983; Thompson & Hastie, 1990). When negotiators lack information about other's preferences and priorities, as they often do, they tend to assume that the other wants the same, and values the same things in the same way as they do. The size of the pie thus is perceived to be fixed, and own and other's preferences are perceived as diametrically opposed (Schelling, 1960). Fixed-pie perceptions lead negotiators to engage in distributive bargaining and to forego possibilities for integrative agreement, typically resulting in suboptimal agreements (De Dreu, 2003; De Dreu, Koole & Steinel, 2000; Gelfand & Christakopoulou, 1999; Harinck, De Dreu & Van Vianen, 2000; Pinkley, Griffith, & Northcraft, 1995; Thompson, 1991; Thompson & Hastie, 1990).

It is important to acknowledge that the fixed-pie perception is not necessarily inaccurate. There are situations in which parties' preferences are indeed diametrically opposed and the issues

on the table are equally important to both parties. For instance, when parties negotiate a single issue that is of equal value to both, their interests are perfectly opposed. However, when more than one issue is involved there are often possibilities for an integrative agreement, as the parties often attach differential value to the different issues. For example, a car salesman may attach greater subjective value to the delivery time of a car than to its price, whereas the reverse may be true for the buyer. When we talk about "overcoming the fixed-pie perception" in this paper, we therefore assume that many multi-issue negotiations offer some degree of integrative potential (while realizing that some negotiations do not).

In many cases the fixed-pie perception could be overcome simply by exchanging factual information regarding mutual preferences and priorities. However, because of the multitude of competitive incentives present in negotiation, parties may be reluctant to explicitly exchange information about preferences and priorities, and readily suspect ulterior motives behind their partner's communications (De Dreu & Steinel, 2006). Thus, a car salesman is unlikely to disclose to a potential buyer that to him price is only a secondary issue compared to delivery time, even though providing such information may increase the chances of both parties successfully working out a mutually beneficial integrative agreement.

Although negotiators may be reluctant to engage in explicit information exchange, and to trust explicitly given information, we argue that they often deduce relevant insights from a variety of other sources, including nonverbal cues, facial expressions, and hearsay. Building on the idea that emotions provide social information (e.g., Keltner & Haidt, 1999; Van Kleef, De Dreu, & Manstead, 2004a, 2004b), we argue and show that, even in the absence of explicit information exchange, counterparts' emotional expressions may lead negotiators to revise their fixed-pie perceptions and to discover the negotiation's integrative potential.

Emotions as Strategic Information

There is increasing consensus that emotions play an essential role in regulating social interactions (Barry, Fulmer, & Van Kleef, 2004; Frijda, 1986; Keltner & Haidt, 1999; Morris & Keltner, 2000; Oatley & Jenkins, 1992; Parkinson, 1996; Van Kleef et al., 2004a, 2004b). The basic premise is that emotions have important social functions and consequences. Most notably, emotions function as communications to both oneself (Schwarz & Clore, 1983) and other people, conveying information about one's social intentions, one's orientation toward others, and one's goals and desires (Fridlund, 1994; Knutson, 1996). In line with this notion it has been suggested that, in the context of a negotiation, emotions may signal what value negotiators attach to the different issues at hand (Putnam, 1994). Such information could be of great importance, for an accurate understanding of a counterpart's preferences and priorities is a necessary precondition for the type of integrative negotiation behavior that produces superior outcomes.

In thinking about the informational value of emotions in negotiation, it is important to consider the distinction between intrapersonal and interpersonal effects of emotions (cf. Keltner & Haidt, 1999; Morris & Keltner, 2000). Intrapersonal effects refer to the influence of a negotiator's mood state on his or her own judgments and behavior. Influential models that have guided research on such intrapersonal effects include the affect-as-information model (Schwarz & Clore, 1983), affect-priming models (e.g., Bower, 1981; Isen, Shalker, Clark, & Karp, 1978), and the affect infusion model (Forgas, 1995). The interpersonal approach that is currently gaining momentum, in contrast, addresses the question of how one individual's emotional expressions affect one or more other individuals in the social context (e.g., Morris & Keltner, 2000; Van Kleef et al., 2004a). A crucial difference between the approaches, besides the level of analysis, is that intrapersonal models focus predominantly on incidental affect (mood states that

are unrelated to the judgment at hand), whereas interpersonal models focus primarily on emotions that arise from the social interaction and are therefore pertinent to the situation. The focus of the present study is on these interpersonal effects of emotions.

A number of negotiation studies support the idea that emotions provide strategic information at the interpersonal level. For instance, Van Kleef et al. (2004a, 2004b) showed, in a computer-mediated negotiation setting, that participants who negotiated with an angry opponent judged their counterpart's limits as more ambitious than did those with a happy opponent. As a result, participants made larger concessions to an angry opponent than to a happy one, especially when they were motivated to process the information conveyed by the other's emotions. Likewise, Sinaceur and Tiedens (2006) showed, in a face-to-face context, that angry negotiators were perceived as tougher than non-emotional negotiators, which led participants to concede more to angry counterparts than to non-emotional ones. These patterns could be explained in terms of *mismatching*, the tendency of negotiators to make large concessions to a relatively tough counterpart and small concessions to a relatively lenient counterpart (Pruitt, 1981; Pruitt & Carnevale, 1993; Van Kleef et al., 2004a).

So far the interpersonal effects of emotions in negotiation have mostly been examined in distributive bargaining settings, where one party's gain equals the other's loss (for a rare exception, see Butt, Choi, & Jaeger, 2005). We contend that emotions can potentially be of even greater consequence in negotiations with integrative potential, where an opponent's emotional expressions may inform negotiators about the other's preferences and priorities. Our central argument is that emotional expressions play an important role in confirming or disconfirming negotiators' (often erroneous) beliefs about their counterpart's priorities, thus determining negotiators' success in developing integrative strategies and finding stable, mutually satisfying

agreements.

Present Study and Hypotheses

In previous studies on the interpersonal effects of emotions in negotiation, participants were confronted with an opponent expressing one particular emotion targeted at the participant's general negotiation behavior. In the present study we focus on the effects of a counterpart's expressions of anger and happiness in a two-issue negotiation, where one issue is of high importance to the focal negotiator and the other issue is of low importance. In the context of a computer-mediated negotiation, participants are confronted with a counterpart who expresses either anger or happiness in response to the participant's proposal regarding his or her high priority issue, and expresses anger or happiness in response to the participant's proposal regarding his or her low priority issue. Thus, in contrast to previous studies, the counterpart's emotions arise in response to the individual offers participants make on each issue, and participants may therefore also receive a combination of angry and happy reactions. Compared to previous research this situation more closely mirrors real-life emotional expression, which often entails a mixed-bag of emotions rather than unambiguous emotion statements (Scherer & Tannenbaum, 1986).

Perhaps more important, at least for present purposes, combinations of emotions may provide especially useful strategic information in negotiation. We know from the emotion literature that emotions arise in response to situations that frustrate (negative emotion) or facilitate (positive emotion) the attainment of valued goals (Frijda, 1986; Smith & Lazarus, 1993). Therefore, if a counterpart expresses anger in response to a focal negotiator's proposal on a particular issue, the focal negotiator may infer that the other attaches great value to that issue. Conversely, if a counterpart expresses happiness regarding a focal negotiator's proposal, the focal

negotiator may infer that the other's wishes have been satisfied and/or that the issue is of low importance to the other (Putnam, 1994; Van Kleef et al., 2004a). Inferences such as these may inspire the mismatching tendency that we alluded to earlier, which involves placing high demands when one's counterpart appears conciliatory, and low demands when the counterpart appears tough (De Dreu & Carnevale, 2003; Pruitt, 1981).

Following this reasoning, negotiators who are confronted with an angry reaction in response to their offer on their high priority issue will be confirmed in their belief that their own high priority issue is also the other's high priority issue. Likewise, negotiators who receive a happy reaction regarding their offer on their low priority issue may conclude that their low priority issue is also the other's low priority issue. In other words, such a pattern of emotional reactions is *congruent* with the fixed-pie perception. In contrast, if negotiators receive angry responses regarding their low priority issue proposals and happy responses regarding their high priority issue proposals (i.e., a fixed-pie *incongruent* response pattern), they may be triggered to think about the possibility that their own high priority issue is actually the other's low priority issue, and vice versa. Such a discovery would disconfirm the fixed-pie perception, which could lead to more positive differentiation of demands on participants' high vs. low priority issues (e.g., relatively tough demands on high priority issue and relatively lenient demands on low priority issue).

Based on the above logic, we predict that the condition in which the counterpart expresses anger regarding the participant's low priority issue and happiness regarding the participant's high priority issue (fixed-pie incongruent response pattern) will produce weaker fixed-pie perceptions (*Hypothesis 1a*) and stronger positive differentiation of participants' demands on their high vs. low priority issues (*Hypothesis 2a*) compared to the conditions in

which the counterpart expresses anger on both issues or happiness on both issues. Conversely, we expect that the condition in which the counterpart expresses anger regarding participant's high priority issue and happiness regarding participant's low priority issue (fixed-pie congruent response pattern) will produce stronger fixed-pie perceptions (*Hypothesis 1b*) and weaker positive (possibly even negative) differentiation of demands (*Hypothesis 2b*) compared to the conditions in which the counterpart expresses anger or happiness regarding both issues.

These hypotheses were tested in two Experiments. As a first test, Experiment 1 employed a verbal manipulation of emotional expressions that has been used extensively in past research. In Experiment 2 we replicated the findings of Experiment 1 using a newly developed procedure in which participants are presented with pictures of their negotiation counterpart displaying anger or happiness through facial expressions.

Experiment 1

Method

Participants and Experimental Design

Ninety-eight male and female undergraduate students at the University of Amsterdam participated in the study for course credit or EUR5 (approximately US\$6 at the time of the experiment). Participants were randomly assigned to conditions using a double-blind procedure.

The design included the counterpart's emotional response to participants' proposals on their high priority issue (anger vs. happiness) and on their low priority issue (anger vs. happiness). Dependent variables were fixed-pie perceptions, demands on high and low priority issues, manipulation checks and, for exploratory purposes, participants' desire to sustain future relations with their counterpart.

Procedure

Upon arrival, participants were seated in separate cubicles in front of a computer, which displayed experimental instructions. To facilitate the manipulation of the counterpart's emotion (see below), participants were told that the purpose of the study was to uncover how specific versus more global negotiation styles affect negotiation when parties cannot see each other. They were instructed that they would engage in a computer-mediated negotiation with another participant (who was, in reality, simulated by the computer).

Negotiation task. The task derived from the one developed by Pruitt and Lewis (1975) and adapted for computer mediation by Hilty and Carnevale (1993). The current version has been successfully used before in work on information processing (De Dreu & Van Kleef, 2004) as well as in earlier work on emotion displays in negotiation (e.g., Van Kleef et al., 2004a; Van Kleef, De Dreu, Pietroni, & Manstead, 2006). The task captures the main characteristics of real-life negotiation, such as multiple issues differing in utility to the negotiators, information about one's own payoffs only, and the typical offer-counteroffer sequence. In the current version, participants were asked to imagine that they worked for a computer company that specialized in selling assembled computers for fixed prices. Although the price of the computers was fixed, the characteristics of the computer parts were subject to negotiation. Participants learned that they would negotiate the quality of the monitor and the quality of the hard disk with a potential buyer.

Participants were presented with a payoff chart (see Appendix A) that showed which outcomes were most favorable to them, and they were told that their goal was to earn as many points as possible. As can be seen in Appendix A, disk type constituted participants' high priority issue, yielding up to 33 points for disk type I. Monitor type constituted participants' low priority issue, yielding 17 points for the most favorable agreement (monitor type I). In total participants could earn a maximum of 50 points. The payoff chart of the (computer-simulated) buyer was not

shown, and participants were told only that it differed from their own.

To enhance participants' involvement we told them that points earned would be converted to lottery tickets at the end of the experiment, so that more points would lead to more lottery tickets, thereby increasing one's chance of winning one of three EUR50 prizes (approximately US\$60 at the time of the experiment). To emphasize the mixed-motive nature of the negotiation, participants were told that only those who reached an agreement would participate in the lottery. Thus, there was an incentive to obtain as many points as possible, and an incentive to reach an agreement.

Participants then learned that the computer had randomly determined that they were to give specific counteroffers to the buyer's offers by entering numbers between 1 (very unfavorable for the participant) and 9 (very favorable for the participant), and that the buyer would be asked to respond in more global terms, that is, without using numbers. Participants were told that this exchange would continue until an agreement was reached or until time ran out. Because our experience with this task is that participants start to doubt the presence of a "real" interaction partner after five or six rounds, we interrupted the negotiation after the fourth round.

Manipulation of counterpart's emotion. After participants had made their first offer, they waited for about one minute while the buyer was supposedly typing his or her "global response" to the proposal. Participants then received the response supposedly typed in by the buyer in a separate box and in a different font. To enhance realism, we added some minor typing errors. Depending on condition the buyer reacted with one of four emotional response patterns: (1) anger regarding both the participant's proposal on his/her low priority issue (monitor) and his/her high priority issue (hard disk); (2) anger regarding the participant's high priority issue and

happiness regarding the participant's low priority issue (fixed-pie congruent response pattern); (3) happiness regarding participant's high priority issue and anger regarding participant's low priority issue (fixed-pie incongruent response pattern); and (4) happiness on both the participant's high priority and low priority issues.

In total participants received three emotional reactions from their counterpart (adapted from Van Kleef et al., 2004a)—one in response to their first proposal, one in response to their second proposal, and one in response to their third proposal. Appendix B provides details and specific wordings. In addition, the counterpart asked for a better offer in each round of the negotiation. The exact phrases used to demand a better offer varied per round and were held constant across conditions. Specifically, after the participant's first, second, and third proposal the buyer wrote "I expect a better offer," "you can do better," and "I really expect a better deal," respectively. Thus, regardless of experimental condition, it was made clear that the counterpart was not satisfied with the participants' current proposal but requested a better offer.

Dependent Measures

Fixed-pie perception. Participants received a sheet of paper with their payoff chart depicting the nine possible levels of agreement on the two issues (see Appendix A). However, we omitted the values in the payoff column and asked participants to fill in the points they estimated their counterpart for each of the options. These estimates were used to calculate an implicit measure of fixed-pie perception by subtracting the number of points attributed to the counterpart on each issue from the points in the participant's own profit schedule (cf. Thompson & Hastie, 1990). For example, on the monitor issue (payoff between 1 and 17 points; see Appendix A), a perfect fixed-pie assumption shows up if the participant would fill in that the counterpart gets a payoff between 17 (on Monitor A) and 1 (on Monitor I). In this case the

absolute difference between own payoff and other's assumed payoff would be $(1-17) + (3-15) + (5-13) + (7-12) + (9-9) + (11-7) + (13-5) + (15-3) + (17-1) = 0$. Likewise, on the hard disk issue (payoffs between 1 and 33) a perfect fixed-pie assumption shows up if the participant would fill in that the counterpart gets a payoff between 33 (on hard disk A) and 1 (on hard disk I). In this case the absolute difference between own payoff and other's assumed payoff would be $(1-33) + (5-29) + (9-25) + (13-21) + (17-17) + (21-13) + (25-9) + (29-5) + (33-1) = 0$. If across both issues a participant scores "0" on this measure, he or she has a perfect fixed-pie assumption. Any score greater than zero indicates the participant assumed own and other's payoff *not* to be diametrically opposed and that possibilities for integrative agreements exist (De Dreu, 2003; De Dreu et al., 2000; Thompson & Hastie, 1990).

Hereafter, we assessed fixed-pie perceptions more directly by asking four questions ("On which issue do you think the buyer can earn most points?"; "Which issue do you think is most important for the buyer?"; "Which issue do you think has the highest priority for the buyer?"; and "To which issue do you think the buyer attaches most value?", each ranging from 1 = *monitor* [participants' low priority issue] to 7 = *hard disk* [participants' high priority issue]), which were combined into a reliable scale ($\alpha = .96$). Higher values on this scale indicate stronger fixed-pie perception (for similar procedures see e.g., Carnevale & Isen, 1986; Kimmel, Pruitt, Magenau, Konar-Goldband, & Carnevale, 1980; O'Connor, 1997; O'Connor & Carnevale, 1997).

Demands. The offers made by participants in each round were recorded. Offers on both issues could range from 1 (very unfavorable to participant) to 9 (very favorable to participant; see Appendix A).

Manipulation check. To check the adequacy of the manipulation of the counterpart's emotional responses, participants were asked to indicate on a 7-point scale how angry, mad, and

irritated (anger check), and how happy, content, and satisfied (happiness check) they thought their counterpart had been regarding their proposals on both issues. These questions were used to create four 3-item scales: anger regarding participant's high priority issue ($\alpha = .96$), anger regarding participant's low priority issue ($\alpha = .96$), happiness regarding high priority issue ($\alpha = .95$), and happiness regarding low priority issue ($\alpha = .98$).

Desire for future interaction. Finally, we assessed participants' willingness to engage in future negotiations with their counterpart using one item ("I'd like to negotiate again with my counterpart," 1 = *totally disagree* to 7 = *totally agree*).

Results

Manipulation Check

ANOVA showed that participants who received angry reactions pertaining to their low priority issue offers perceived their counterpart as more angry regarding their low priority issue offer ($M = 5.99$, $SD = 1.31$) than did those who received happy reactions ($M = 1.57$, $SD = 0.65$), $F(1, 96) = 433.41$, $p < .001$. Participants who received happy reactions pertaining to their low priority issue offers perceived their counterpart as more happy ($M = 5.49$, $SD = 1.49$) than did those who received angry reactions ($M = 1.60$, $SD = 1.08$), $F(1, 96) = 221.89$, $p < .001$.

Likewise, participants who received angry reactions pertaining to their high priority issue offers perceived their counterpart as more angry regarding their high priority issue offer ($M = 6.27$, $SD = 0.92$) than did those who received happy reactions ($M = 1.49$, $SD = 0.52$), $F(1, 96) = 1009.59$, $p < .001$, and participants who received happy reactions perceived their counterpart as more happy ($M = 5.29$, $SD = 1.41$) than did those who received angry reactions ($M = 1.57$, $SD = 0.85$), $F(1, 96) = 251.93$, $p < .001$. These results indicate that the manipulation of the counterpart's emotional response pattern was successful.

Hypothesis Tests

We tested our hypotheses using planned comparisons. We opted for planned comparisons instead of the traditional 2 x 2 x 2 ANOVA because we had specific hypotheses about the ordering of means across the four emotional response conditions. (Note that, in our case, results of a 2 x 2 x 2 ANOVA led to identical conclusions; for more details about the planned comparison procedure see Rosenthal & Rosnow, 1984.) The means and standard deviations as well as the contrasts computed to test the hypotheses are shown in Table 1.

Fixed-pie perception. We first tested whether participants developed *weaker* fixed-pie perceptions when their counterpart expressed happiness regarding their high priority issue offers and anger regarding their low priority issue offers (fixed-pie incongruent response pattern) than when their counterpart expressed anger on both issues or happiness on both issues (Hypothesis 1a; see Contrast 1 in Table 1). This contrast was significant for both the implicit fixed-pie perception index, $t(94) = 5.22, p < .001$, and the explicit fixed-pie perception index, $t(94) = 18.32, p < .001$: participants developed weaker fixed-pie perceptions when their counterpart expressed anger on their low priority issue and happiness on their high priority issue than when their counterpart expressed anger or happiness on both issues.

We then examined whether participants developed a *stronger* fixed-pie perception when their counterpart expressed anger regarding their high priority issue offers and happiness regarding their low priority issue offers (fixed-pie congruent response pattern) than when their counterpart expressed anger or happiness regarding both proposals (Hypothesis 1b; Contrast 2). This contrast, too, was significant for both the implicit measure, $t(94) = 2.19, p < .05$, and the explicit measure of fixed-pie perception, $t(94) = 27.95, p < .001$. Participants had stronger fixed-pie perceptions when their counterpart expressed happiness on their low priority issue and anger

on their high priority issue than when the counterpart expressed anger or happiness on both issues. These results support Hypotheses 1a and 1b.

Demand Level

We analyzed the demand level data using a mixed-model ANOVA with the counterpart's emotional response pattern as a between-participants variable, and average demand on the two issues as a within-participants variable. This revealed, first of all, a main effect of issue, $F(1, 94) = 13.52, p < .001$, indicating higher demands on the high priority issue ($M = 7.36, SD = 1.39$) than on the low priority issue ($M = 6.83, SD = 1.41$). A significant Emotion x Issue interaction, $F(3, 94) = 20.86, p < .001$, further showed that the tendency to demand more on the high rather than low priority issue was amplified when participants received fixed-pie incongruent emotional responses, and attenuated when they received fixed-pie congruent responses (see Table 1).

To test Hypotheses 2a and 2b we computed an index capturing the positive differentiation of demands on the high versus low priority issue (i.e., high priority issue demands minus low priority issue demands, see De Dreu & Van Lange, 1995). The predicted patterns of positive differentiation were tested using planned comparisons, using the same contrasts as described above (see Table 1). Both contrasts were significant. Supporting Hypothesis 2a, participants displayed stronger positive differentiation when their counterpart expressed anger on their low priority issue and happiness on their high priority issue than when their counterpart expressed anger or happiness on both issues, $t(94) = 7.09, p < .001$. In line with Hypothesis 2b, participants displayed *negative* differentiation (i.e., they demanded *more* on their low priority issue than on their high priority issue) when their counterpart expressed happiness on their low priority issue and anger on their high priority issue than when their counterpart expressed anger or happiness on both issues, $t(94) = 3.57, p < .01$.

Desire for Future Interaction

ANOVA revealed a significant main effect of opponent's emotional response pattern on participants' willingness to engage in future interactions with their counterpart, $F(3, 94) = 6.56, p < .001$ (see Table 1 for means and standard deviations). Because we had no specific predictions regarding the direction of this effect, we used Duncan's post-hoc test to identify significant differences between the conditions. Interestingly, this revealed that the willingness to engage in future interaction was significantly higher when the counterpart expressed happiness about both issues or happiness about the participant's high priority issue and anger about the low priority issue (fixed-pie incongruent response pattern) than when the counterpart expressed anger about both issues or anger about the participant's high priority issue and happiness about the low priority issue (fixed-pie congruent pattern). No other differences were significant.

Discussion

Consistent with our theorizing, Experiment 1 showed that negotiators modify their perceptions of the other's priorities as a function of the other's emotional expressions, and adapt their negotiation strategy accordingly. Fixed pie perceptions were alleviated and positive differentiation of demand levels was enhanced when negotiators were confronted with a counterpart who expressed anger regarding their low priority issue offers and happiness regarding their high priority issue offers. This pattern of emotional reactions is incongruent with the fixed-pie perception in the sense that it alerts negotiators to the possibility that their own high priority issue may actually be the other's low priority issue, and vice versa. The opposite pattern of emotional reactions (i.e., anger regarding one's high priority issue and happiness regarding one's low priority issue) was found to strengthen negotiators' fixed-pie perceptions and to discourage integrative behavior.

Interestingly, exploratory analyses revealed that emotional response patterns affected negotiators' willingness to engage in future interactions with their counterpart. Participants expressed a greater willingness to uphold future relations with a counterpart who expressed happiness regarding the participant's high-priority issue and anger regarding the participant's low priority (or happiness regarding both issues) than with a counterpart who expressed anger about the high-priority issue and happiness about the low-priority issue (or anger about both issues). This finding suggests that expressions of anger may not always harm future relations, as is often assumed (cf. Kopelman, Rosette, & Thompson, 2006; Van Kleef et al., 2004b). We return to this in the General Discussion.

Experiment 2

To provide a first test of our hypotheses, in Experiment 1 we relied on an existing emotion manipulation that has been used successfully in past research (see Van Kleef et al., 2004a, 2004b). Thus, participants were confronted with a counterpart who expressed anger or happiness regarding their offers by means of written statements. The advantage of this approach is that emotions can be specifically targeted at certain aspects of the participant's offer in a systematic and controlled way. A limitation of this approach is that the emotional statements were explicitly connected to the participant's offer (e.g., "I am happy with the monitor offer, but the hard disk offer makes me really angry"). As a result, the statements did not only convey emotions but also an evaluation of the participant's offers. This begs the question of whether similar results are obtained when the emotional expressions do not contain an explicit evaluation of the participant's offers (i.e., incidental emotions; see Lerner, Small, & Loewenstein, 2004).

Another issue is that negotiators may not always express their emotions verbally. Just as negotiators may be hesitant to talk about their underlying preferences for fear of being exploited,

they may also be reluctant to talk about their feelings. However, whether intentional or not, they may still react to their counterpart's offers with nonverbal (e.g., facial) expressions of emotion. It would therefore be interesting to explore whether our findings generalize to such nonverbal expressions of emotion.

To address these issues, we conducted a second experiment in which participants were confronted with facial expressions of emotion that did not contain an explicit evaluation of the participant's offers. To this end, participants received angry or happy pictures of their counterpart that were supposedly taken by a webcam during the negotiation. Using this procedure, we expected to replicate the findings obtained in Experiment 1.

Method

Participants and Experimental Design

Sixty-four male and female undergraduate students at the University of Chieti, Italy, participated in the study for course credit and the possibility of winning one of three 50 euro prizes. Participants were randomly assigned to conditions using a double-blind procedure. The design included the counterpart's emotional reaction to participants' proposals on their high priority issue (anger vs. happiness) and on their low priority issue (anger vs. happiness). Dependent variables were fixed-pie perceptions, demands on high and low priority issues, manipulation checks and participants' desire to maintain future relations with their counterpart.

Procedure

The procedure was largely similar to that of Experiment 1, with some exceptions that are detailed below.

Negotiation task. We used a paper-pencil version of the task that was used in Experiment 1. In the current version, participants were asked to imagine that they were a human resource

manager who had to negotiate a package of fringe benefits with a newly recruited manager. Two issues had to be negotiated: the type of company car assigned to the manager and the distance to the resort for the annual bonus trip.

Participants were presented with a payoff chart (see Appendix C) that showed which outcomes were most favorable to them, and they were told that their goal was to earn as many points as possible. As can be seen in Appendix C, car type was participants' high priority issue, yielding up to 33 points for a small city car with a 600 cc. engine. Distance to the resort was participants' low priority issue, yielding 17 points for the most favorable agreement (100 km). In total participants could earn a maximum of 50 points. The payoff chart of the manager was not shown, and participants were told only that it differed from their own.

Participants were instructed to make specific offers to the manager by filling in a separate offer form for each issue, whereas the manager was supposedly asked to respond in more global terms without writing down specific offers. Participants were informed that, because they would not engage in face-to-face negotiations with the manager, they would be shown pictures of him that would be taken by a hidden web-cam at several timepoints during the negotiation. The negotiation then unfolded as in Experiment 1, except that participants wrote their offers on paper forms instead of entering them in the computer. In each round, participants wrote their offer pertaining to the type of car on one form and their offer pertaining to the bonus trip location on another form.

Manipulation of the counterpart's emotion. After participants had made their first offer by filling in the two issue forms, they waited for about two minutes while their counterpart was supposedly writing his "global responses" to the offers. Participants learned that the other received their offer forms sequentially, with a pause of about a minute in between. They further

learned that a hidden web-cam would take two shots of the counterpart's face, one while he was reading the participants' offer on the car issue, and the other while he was reading the offer on the bonus trip issue. Participants then received a freshly printed web-cam photo of their counterpart that was still warm from the printer and that had supposedly been taken while the other was reading the participant's offer on the car issue. About one minute later participants received another freshly printed photo of the other, which had supposedly been taken while he was reading the participant's offer regarding the bonus trip location. Finally, participants received a hand-written sheet that contained the counterpart's "global reaction" to the participant's offer, which concluded the first round. This procedure was repeated in the second round.

The photos were taken from the Karolinska Directed Emotional Faces set (Lundqvist, Flykt, & Öhman, 1998). This set of pictures contains 70 individuals between 20 and 30 years of age, displaying seven different emotional expressions that are each viewed from five different angles. This stimulus set has been extensively pretested and used in previous research (for documentation see Lundqvist et al., 1998). We selected angry and happy pictures of a male actor that was representative of the student population at the university where the study was conducted in terms of physical appearance. Because participants believed that the pictures were taken by a hidden camera, we used pictures that were taken at a 45° angle to enhance credibility. The pictures and their classification codes can be found in Appendix D.

Depending on condition, participants saw pictures of their counterpart showing either (1) anger while reading the participant's high-priority issue offer and anger while reading the low-priority issue offer; (2) anger while reading the high priority issue offer and happiness while reading the low priority issue offer (fixed-pie congruent response pattern); (3) happiness while

reading the high priority issue offer and anger while reading the low priority issue offer (fixed-pie incongruent response pattern); and (4) happiness while reading the high priority offer and happiness while reading the low priority offer. As in Experiment 1, the counterpart's "global reaction" to the participant's offers was held constant across conditions. In response to the participant's first proposal, the other wrote "I expect a better offer"; his reaction to the second proposal was "you can do better." After the participant's third proposal, the negotiation was interrupted and a post-negotiation questionnaire was administered.

Dependent Measures

All dependent variables were identical to those in Experiment 1 except that, due to time constraints, we dropped the indirect measure of fixed-pie perception. Thus we only used the direct measure, which was the same as in Experiment 1.

Results

Manipulation Check

ANOVA showed that participants who received angry reactions pertaining to their low priority issue offers perceived their counterpart as more angry regarding their low priority issue offer ($M = 3.89$, $SD = 1.73$) than did those who received happy reactions ($M = 1.62$, $SD = 0.72$), $F(1, 63) = 46.56$, $p < .001$, $\eta^2 = .43$. Participants who received happy reactions pertaining to their low priority issue offers perceived their counterpart as more happy ($M = 5.14$, $SD = 1.34$) than did those who received angry reactions ($M = 2.51$, $SD = 1.44$), $F(1, 63) = 56.79$, $p < .001$, $\eta^2 = .48$. Likewise, participants who received angry reactions pertaining to their high priority issue offers perceived their counterpart as more angry regarding that offer ($M = 4.82$, $SD = 1.62$) than did those who received happy reactions ($M = 2.25$, $SD = 1.13$), $F(1, 63) = 54.58$, $p < .001$, $\eta^2 = .47$, and participants who received happy reactions perceived their opponent as more happy ($M =$

5.01, $SD = 1.23$) than did those who received angry reactions ($M = 2.79$, $SD = 1.51$), $F(1, 63) = 41.05$, $p < .001$, $\eta^2 = .40$. These results indicate that the manipulation of the counterpart's emotional response pattern was successful.¹

Hypothesis Tests

As in Experiment 1, we tested our hypotheses using planned comparisons. The means and standard deviations as well as the contrasts computed to test the hypotheses are shown in Table 2.

Fixed-pie perception. We first tested whether participants developed *weaker* fixed-pie perceptions when their counterpart expressed happiness while reading their high priority issue offers and anger while reading their low priority issue offers (fixed-pie incongruent response pattern) than when their counterpart expressed anger regarding both issues or happiness regarding both issues (Hypothesis 1a; see Contrast 1 in Table 2). This contrast was significant, $t(46) = 2.69$, $p < .05$, indicating that participants developed weaker fixed-pie perceptions when their counterpart expressed anger while reading their low priority issue offer and happiness while reading their high priority issue than when he expressed anger or happiness on both issues.

We then examined whether participants developed a *stronger* fixed-pie perception when their counterpart displayed anger regarding their high priority issue offers and happiness regarding their low priority issue offers (fixed-pie congruent response pattern) than when he displayed anger or happiness about both proposals (Hypothesis 1b; Contrast 2). This contrast was also significant, $t(46) = 2.59$, $p < .05$. Participants had stronger fixed-pie perceptions when their counterpart expressed happiness while reading their low priority issue and anger while reading their high priority issue than when he expressed anger or happiness regarding both issues. These results support Hypotheses 1a and 1b.

Demand Level

We analyzed the demand level data using mixed-model ANOVA with the counterpart's emotional response pattern as a between-participants variable, and average demand on the two issues as a within-participants variable. This revealed, first of all, a main effect of condition, $F(3, 60) = 3.92, p < .05, \eta^2 = .16$, indicating that participants demanded less when their counterpart expressed anger regarding both issues ($M = 6.59, SD = 1.18$) compared to when he expressed happiness regarding both issues ($M = 7.32, SD = 0.75$), happiness regarding the participant's high priority issue and anger regarding the low priority issue ($M = 7.38, SD = 0.45$), or happiness regarding the low and anger regarding the high priority issue ($M = 7.48, SD = 0.67$). A significant Emotion x Issue interaction, $F(3, 60) = 19.63, p < .001, \eta^2 = .50$, showed that the tendency to demand more on the high rather than low priority issue was stronger when participants viewed fixed-pie incongruent emotional displays, and was weakened when they received fixed-pie congruent displays, with the other two conditions falling in the middle (see Table 2).

To test Hypotheses 2a and 2b we computed an index capturing the positive differentiation of demands on the high versus low priority issue (i.e., high priority issue demands minus low priority issue demands, see De Dreu & Van Lange, 1995). The predicted patterns of positive differentiation were tested using planned comparisons, using the same contrasts as in Experiment 1 (see Table 2). Both contrasts were significant. Supporting Hypothesis 2a, participants displayed stronger positive differentiation when their counterpart displayed anger while reading their low priority issue offer and happiness while reading their high priority issue offer (fixed-pie incongruent pattern) than when their counterpart expressed anger or happiness about both issues, $t(46) = 3.53, p < .01$. Supporting Hypothesis 2b, participants displayed *negative* differentiation

(i.e., they demanded *more* on their low priority issue than on their high priority issue) when their counterpart expressed happiness regarding their low priority issue and anger regarding their high priority issue (fixed-pie congruent pattern) than when their counterpart expressed anger or happiness regarding both issues, $t(46) = 5.60, p < .01$.

Desire for Future Interaction

ANOVA revealed a significant main effect of the counterpart's emotional response pattern on participants' willingness to engage in future interactions with their counterpart, $F(3, 63) = 3.46, p < .05, \eta^2 = .15$ (means and standard deviations are shown in Table 2). Duncan's post-hoc test revealed that the willingness to engage in future interaction was significantly higher when the counterpart expressed happiness regarding both issues or happiness regarding the participant's high priority issue and anger regarding the low priority issue (fixed pie incongruent pattern) than when the counterpart expressed anger about both issues or anger about the participant's high priority issue and happiness about the low priority issue (fixed-pie congruent response pattern). No other differences were significant.

General Discussion

Fixed-pie perceptions constitute a major barrier to integrative negotiation and successful conflict resolution. Negotiators' tendency to perceive their own outcome structure as diametrically opposed to that of their counterpart often leads them to miss out on opportunities to devise mutually beneficial "win-win" agreements. Drawing on research indicating that emotions provide information that may have strategic implications in negotiation (e.g., Morris & Keltner, 2000; Sinaceur & Tiedens, 2006; Van Kleef et al., 2004a), we proposed that particular patterns of emotional expression may trigger negotiators to revise their fixed-pie perceptions and stimulate them to engage in integrative negotiation behavior.

Consistent with our reasoning, the present study showed that negotiators modify their perceptions of the other's priorities as a function of the other's emotional expressions, and adapt their negotiation strategy accordingly. Specifically, we found that fixed pie perceptions are alleviated and positive differentiation of demands is enhanced when negotiators are confronted with a counterpart who expresses anger regarding their low priority issue offers and happiness regarding their high priority issue offers. This pattern of emotional expression is incongruent with the fixed-pie perception and may alert negotiators to the possibility that their own high priority issue may be the other's low priority issue, and vice versa. After all, why would the other become angry about an issue that is of marginal importance to him or her? The mere fact that the other gets angry about an issue that is unimportant to oneself and happy about an issue that is important to oneself thus suggests that own and other's payoffs may not be completely opposed, and hence that the negotiation allows for an integrative solution. Logically, the opposite pattern of emotional reactions (i.e., anger regarding one's high priority issue and happiness regarding one's low priority issue) was found to strengthen negotiators' fixed-pie perceptions and to discourage integrative behavior.

Our findings have several implications for theory and practice. First, results add to a growing body of literature pointing to the informational functions of emotions in negotiation and in social interaction in general. Previous research had focused predominantly on the individual benefits and detriments of emotional expressions for the person expressing them. That is, several studies have documented that negotiators who express anger are able to claim a larger share of the pie than those who express happiness or no emotion (e.g., Sinaceur & Tiedens, 2006; Van Kleef et al., 2004a, 2004b). The present study contributes to the negotiation and conflict resolution literatures by showing for the first time that emotional expressions may affect fixed-

pie perception and differentiation of demands. This finding goes beyond notions of individual gain by demonstrating how particular combinations of emotional expressions may increase the likelihood that negotiators find a mutually satisfying solution.

It is important to note that similar findings were obtained regardless of whether emotions were expressed verbally by means of written statements (Experiment 1) or nonverbally through facial displays (Experiment 2). Apparently, different modalities of emotional expression can produce similar effects on strategic inferences and negotiation behavior. In negotiation, and in social interaction in general, situational characteristics determine in large part whether individuals have visual access to their interaction partner's facial displays. In face-to-face interaction nonverbal emotional displays are usually readily observable, but in computer-mediated interaction (e-mail, internet) or telephone meetings many nonverbal cues are eliminated. Our findings suggest that the verbal communication of emotion, which takes on heightened importance in such contexts, informs individuals about others' preferences, desires, values, and intentions in similar ways that nonverbal displays of emotion do. An important implication of this conclusion is that emotions have the potential to coordinate social interaction across situations that differ along dimensions of social richness.

As indicated earlier, negotiators are often reluctant to disclose their preferences and priorities for fear that others may capitalize on this information to exploit them. As a result, negotiators often fail to discover integrative solutions, because they tend to believe that their own gain is the other's loss and vice versa—a belief that is often inaccurate (De Dreu et al., 2000; Thompson & Hastie, 1990). The present findings suggest that, even though negotiators may not explicitly and deliberately inform others about the structure of their preferences and payoffs, a sensitive negotiator may extract this information from the other's emotional displays. Accurate

recognition of particular patterns of emotional expression may thus help negotiators to revise their fixed-pie perceptions and discover mutually satisfying win-win agreements.

This possibility touches upon the concept of emotional intelligence (Salovey & Mayer, 1990). Emotionally intelligent individuals are skilled at detecting the emotions expressed by others. The prediction follows that emotionally intelligent negotiators are more likely to discover integrative agreements, provided that their counterparts do not maintain a poker face throughout the negotiation. The other way around, more emotionally expressive individuals may provide more information regarding their preferences and priorities than less emotionally expressive individuals. Again, the prediction would be that the more expressive individuals are more likely to close mutually satisfying deals, provided that their counterparts have the necessary skills to decode their emotional expressions. This issue could be explored in future research.

Previous research identified a dilemma facing negotiators who anticipate future interactions with their counterpart. On the one hand, it would seem advisable to express anger during the negotiation, because doing so may lead the other to make considerable concessions (Sinaceur & Tiedens, 2006; Van Kleef et al., 2004a, 2004b). On the other hand, expressing anger also elicits reciprocal anger, contributes to negative impressions, and reduces others' willingness to engage in future interactions (Friedman et al., 2004; Kopelman et al., 2006; Van Kleef et al., 2004a, 2004b). The present findings suggest a way out of this dilemma by showing that particular combinations of anger and happiness (specifically anger regarding another's low priority issue offers and happiness regarding another's high priority issue offers) may enhance one's outcomes by promoting integrative behavior without reducing the other's willingness to engage in future negotiations. Thus, in addition to prompting negotiators to revise their fixed-pie perceptions and stimulating integrative behavior, this particular pattern of emotional

communication may also function to sustain long-term relationships. Future research could explore this issue in greater depth.

Our findings resonate nicely with classic work on negotiators' tendency to "mismatch" their opponent's negotiation behavior, such that negotiators make large concessions to others who appear tough and small concessions to others who appear lenient. This work assumes that negotiators mismatch their counterpart's concession size to track the other's limit in order to devise an optimal negotiation strategy. Such mismatching is commonly observed in early phases of the negotiation process, where strategic information processing is particularly relevant (for more detail and discussion, see De Dreu et al., 2007; Pruitt & Carnevale, 1993; Van Kleef et al., 2004a). In light of this tendency, future research on the interpersonal effects of emotions in negotiation could develop a more longitudinal perspective, and examine whether the current findings are more pronounced in early rather than later phases of the negotiation. Also, given that mismatching involves strategic information processing, which requires both motivation and cognitive abilities, future research could examine whether current findings are moderated by the motivation and ability to engage in systematic information processing geared toward a better understanding of the strategic implications of the counterpart's emotions.

The angry/happy and happy/angry conditions in our experiments are reminiscent of work on emotional contrast strategies (cf. the good-cop/bad-cop technique in police interrogation and the black-hat/white-hat strategy in negotiation; Hilty & Carnevale, 1993). Judgments are relative, and the context in which a stimulus is presented serves as a reference point against which the stimulus is compared and judged (Bazerman, 1990; Eiser, 1990). Applying this notion to emotions, Rafaeli and Sutton (1991) argued that emotional contrast effects may be used as a tool to elicit compliance. The reasoning is that exposure to contrasting emotions such as anger and

happiness accentuates both construed positiveness and negativeness through perceptual contrast, which would increase the impact of either emotion. Interestingly, whereas an emotional-contrast perspective would predict similar effects in the angry/happy and happy/angry conditions, in our study these two conditions produce opposite effects. Our findings thus inform the emotional contrast literature by showing that perceptual contrast can produce different judgments and behaviors depending on the object of the emotions (in this case a high-priority or a low-priority offer).

Future work might consider more systematically the fine but critically distinction between specific emotions. That is, negotiators may respond differently to another party conveying annoyance rather than irritation, or frustration. Likewise, negotiators may respond differently to a counterpart expressing fear, rather than worry, or anxiety. The currently examined possibility to manipulate the counterpart's emotions through pictures might prove to be quite useful in manipulating such highly discrete emotional states, and examine whether and how they influence cognitive, motivational, and behavioural processes in negotiation and dispute resolution.

Across two experiments, we uncovered that emotional expressions affect negotiators' fixed-pie perceptions and integrative behavior in theoretically meaningful ways. Specifically, expressions of anger in relation to a negotiator's low priority issue combined with happiness regarding their high priority issue may prompt the negotiator to revise ones fixed-pie perception and to explore ways of reaching a mutually satisfying win-win agreement. This finding sheds new light on the dynamics of integrative negotiation and the social functions of emotions by showing how the expression of emotion shapes social exchange.

References

- Barry, B., Fulmer, I. S., & Van Kleef, G. A. (2004). I laughed, I cried, I settled: The role of emotion in negotiation. In M. J. Gelfand & J. M. Brett (Eds.), *The handbook of negotiation and culture* (pp. 71-94). Stanford University Press.
- Bazerman, M. H. (1990). *Judgment in managerial decision making*. New York: Wiley.
- Bazerman, M., & Neale, M. (1983). Heuristics in negotiation: Limitations to dispute resolution effectiveness. In M. H. Bazerman & R. Lewicki (Eds.), *Negotiations in organizations* (pp. 51-67). Beverly Hills, CA: Sage.
- Bower, G. H. (1981). Mood and memory. *American Psychologist*, 36, 129-148.
- Butt, A. N., Choi, J. N., & Jaeger, A. M. (2005). The effects of self-emotion, counterpart emotion, and counterpart behavior on negotiator behavior: A comparison of individual-level and dyad-level dynamics. *Journal of Organizational Behavior*, 26, 681-704.
- Carnevale, P. J. D., & Isen, A. M. (1986). The influence of positive affect and visual access on the discovery of integrative solutions in bilateral negotiation. *Organizational Behavior and Human Decision Processes*, 37, 1-13.
- De Dreu, C.K.W. (2003). Time pressure and closing of the mind in negotiation. *Organizational Behavior and Human Decision Processes*, 91, 280-295.
- De Dreu, C. K. W., Beersma, B., Steinel, W., & Van Kleef, G. A. (2007). The psychology of negotiation: Principles and basic processes. In A. W. Kruglanski & E. T. Higgins (Eds.), *Social psychology: Handbook of basic principles (2nd edition)*, pp. 608-629). New York: Guilford.
- De Dreu, C.K.W., & Carnevale, P.J.D. (2003). Motivational bases of information processing and strategy in conflict and negotiation. In M.P. Zanna (Ed.), *Advances in Experimental*

- Social Psychology* (vol. 35, pp. 235 - 291). New York: Academic Press.
- De Dreu, C. K. W., Koole, S. L., & Steinel, W. (2000). Unfixing the fixed pie: A motivated information-processing approach to integrative negotiation. *Journal of Personality and Social Psychology*, 79, 975-987.
- De Dreu, C. K.W., & Steinel, W. (2006). Motivated information processing and social decision making. In D. De Cremer, M. Zeelenberg, & J. K. Murnighan (Eds.), *Social psychology and economics* (pp. 55-77). New York: Lawrence Erlbaum.
- De Dreu, C. K. W., & Van Kleef, G. A. (2004). The influence of power on the information search, impression formation, and demands in negotiation. *Journal of Experimental Social Psychology*, 40, 303-319.
- De Dreu, C. K. W., & Van Lange, P. A. M. (1995). The impact of social value orientations on negotiator cognition and behavior. *Personality and Social Psychology Bulletin*, 21, 1178-1188.
- Eiser, J. R. (1990). *Social judgment*. Buckingham, England: Open University Press.
- Forgas, J. P. (1995). Mood and judgment: The affect infusion model (AIM). *Psychological Bulletin*, 117, 39-66.
- Fridlund, A. J. (1994). *Human facial expression: An evolutionary view*. San Diego, CA: Academic Press.
- Friedman, R., Anderson, C., Brett, J., Olekalns, M., Goates, N., & Lisco, C. C. (2004). The positive and negative effects of anger on dispute resolution: Evidence from electronically mediated disputes. *Journal of Applied Psychology*, 89, 369-376.
- Frijda, N. H. (1986). *The emotions*. New York: Cambridge University Press.
- Gelfand, M. J., & Christakopoulou, S. (1999). Culture and negotiator cognition: Judgment

accuracy and negotiation processes in individualistic and collectivistic cultures.

Organizational Behavior and Human Decision Processes, 79, 248-269.

Harinck, F., De Dreu, C. K. W., & Van Vianen, A. E. M. (2000). The impact of conflict issues on fixed-pie perceptions, problem solving, and integrative outcomes in negotiation.

Organizational Behavior and Human Decision Processes, 81, 329-358.

Hilty, J. A., & Carnevale, P. J. (1993). Black-hat/white-hat strategy in bilateral negotiation.

Organizational Behavior and Human Decision Processes, 55, 444-469.

Isen, A. M., Shalke, T. E., Clark, M., & Karp, L. (1978). Affect, accessibility of material in memory, and behavior: A cognitive loop? *Journal of Personality and Social Psychology*, 36, 1-12.

Keltner, D., & Haidt, J. (1999). Social functions of emotions at four levels of analysis. *Cognition and Emotion*, 13, 505-521.

Kimmel, M. J., Pruitt, D. G., Magenau, J. M., Konar-Goldband, E., & Carnevale, P. J. D. (1980). Effects of trust, aspiration, and gender on negotiation tactics. *Journal of Personality and Social Psychology*, 38, 9-22.

Kopelman, S., Rosette, A. S., & Thompson, L. (2006). The three faces of eve: An examination of the strategic display of positive, negative, and neutral emotions in negotiations.

Organizational Behavior and Human Decision Processes, 99, 81-101.

Knutson, B. (1996). Facial expressions of emotion influence interpersonal trait inferences.

Journal of Nonverbal Behavior, 20, 165-182.

Lerner, J. S., Small, D. A., & Loewenstein, G. (2004). Heart strings and purse strings: Carryover effects of emotions on economic decisions. *Psychological Science*, 15, 337-341.

Lundqvist, D., Flykt, A., & Öhman, A. (1998). *The Karolinska Directed Emotional Faces*

- (KDEF). Karolinska Institute, Stockholm, Sweden.
- Morris, M. W., & Keltner, D. (2000). How emotions work: An analysis of the social functions of emotional expression in negotiations. *Research in Organizational Behavior*, 22, 1-50.
- Oatley, K., & Jenkins, J. M. (1992). Human emotions: Functions and dysfunctions. *Annual Review of Psychology*, 43, 55-85.
- O'Connor, K. (1997). Motives and cognitions in negotiation: A theoretical integration and empirical test. *International Journal of Conflict Management*, 8, 114-131.
- O'Connor, K., & Carnevale, P. J. D. (1997). A nasty but effective negotiation strategy: Misrepresentation of a common-value issue. *Personality and Social Psychology Bulletin*, 23, 504-515.
- Parkinson, B. (1996). Emotions are social. *British Journal of Psychology*, 87, 663-683.
- Pinkley, R. L., Griffith, T. L., & Northcraft, G. B. (1995). "Fixed pie" a la mode: Information availability, information processing, and the negotiation of suboptimal agreements. *Organizational Behavior and Human Decision Processes*, 62, 101-112.
- Pruitt, D. G. (1981). *Negotiation behavior*. New York: Academic Press.
- Pruitt, D. G., & Carnevale, P. J. (1993). *Negotiation in social conflict*. Buckingham, England: Open University Press.
- Pruitt, D. G., & Lewis, S. A. (1975). Development of integrative solutions in bilateral negotiation. *Journal of Personality and Social Psychology*, 31, 621-633.
- Putnam, L. L. (1994). Challenging the assumptions of traditional approaches to negotiation. *Negotiation Journal*, 10, 337-346.
- Rafaeli, A., & Sutton, R. I. (1991). Emotional contrast strategies as means of social influence: Lessons from criminal interrogators and bill collectors. *Academy of Management*

- Journal*, 34, 749-775.
- Rosenthal, R., & Rosnow, R. L. (1984). *Essentials of behavioral research: Methods and data analysis*. New York: McGraw-Hill.
- Salovey, P., & Mayer, D. (1990). Emotional intelligence. *Imagination, Cognition and Personality*, 9, 185-211.
- Scherer, K. R., & Tannenbaum, P. H. (1986). Emotional experiences in everyday life: A survey approach. *Motivation and Emotion*, 10, 295-314.
- Schwarz, N., & Clore, G. L. (1983). Mood, misattribution, and judgments of well-being: Informative and directive functions of affective states. *Journal of Personality and Social Psychology*, 45, 513-523.
- Sinaceur, M., & Tiedens, L. Z. (2006). Get mad and get more than even: When and why anger expression is effective in negotiations. *Journal of Experimental Social Psychology*, 42, 314-322.
- Smith, C. A., & Lazarus, R. S. (1993). Appraisal components, core relational themes, and the emotions. *Cognition and Emotion*, 7, 233-269.
- Thompson, L. L. (1991). Information exchange in negotiation. *Journal of Experimental Social Psychology*, 26, 82-90.
- Thompson, L. L., & Hastie, R. (1990). Social perception in negotiation. *Organizational Behavior and Human Decision Processes*, 47, 98-123.
- Thompson, L. L., & Hrebec, D. (1996). Lose-lose agreements in interdependent decision making. *Psychological Bulletin*, 120, 396-409.
- Van Kleef, G. A., De Dreu, C. K. W., & Manstead, A. S. R. (2004a). The interpersonal effects of anger and happiness in negotiations. *Journal of Personality and Social Psychology*, 86,

57-76.

Van Kleef, G. A., De Dreu, C. K. W., & Manstead, A. S. R. (2004b). The interpersonal effects of emotions in negotiations: A motivated information processing approach. *Journal of Personality and Social Psychology*, 87, 510-528.

Van Kleef, G. A., De Dreu, C. K. W., Pietroni, D., & Manstead, A. S. R. (2006). Power and emotion in negotiation: Power moderates the interpersonal effects of anger and happiness on concession making. *European Journal of Social Psychology*, 36, 557-581.

Endnote

¹ To probe for possible suspicion we included two questions: “I am participating in a real negotiation,” and “The experimental task was engaging and involving” (both 1 = not at all, to 6 = very much). We found no effects for conditions, $F(3, 60) < 1$, and $F(3, 60) = 2.19, p > .20$, respectively. For both items, the average rating was above the scale mid-point ($M = 4.00$, Stdev. = 1.68; and $M = 4.89$, Stdev. = 1.55; respectively). These results, together with the absence of any voiced suspicion during the debriefing, reduced our concern that participants (in some conditions more than in others) were suspicious about the realness of their counterpart, and the expressed emotions.

Table 1

Means, Standard Deviations (in Parentheses), and Planned Contrasts Computed to Test the Hypotheses in Experiment 1

Dependent Variables and Planned Contrasts	Condition			
	1	2	3	4
	Angry on HP	Angry on HP	Happy on HP	Happy on HP
	Angry on LP	Happy on LP	Angry on LP	Happy on LP
		(Fixed-Pie Congruent)	(Fixed-Pie Incongruent)	
Implicit FPP index	25.96 (50.38)	6.29 (20.26)	41.07 (65.72)	14.08 (41.67)
Explicit FPP index	5.00 (1.75)	6.37 (1.32)	2.23 (1.60)	5.18 (1.83)
Demand on LP	6.57 (1.04)	7.41 (1.63)	6.22 (1.35)	7.20 (1.33)
Demand on HP	7.34 (0.99)	6.12 (1.45)	7.87 (1.36)	8.10 (0.75)
Differentiation of Demands	0.77	-1.29	1.65	0.90
Desire for Future Interaction	2.92 (1.75)	2.88 (1.45)	4.04 (2.20)	4.79 (1.61)
Contrast 1	1	0	-2	1
Contrast 2	1	-2	0	1

Note. Implicit FPP index ranges from 0 to 72, with higher scores indicating weaker fixed-pie perception. Explicit FPP index ranges from 1 to 7, with higher scores indicating stronger fixed-pie perception. HP = participant's high priority issue; LP = participant's low priority issue.

Differentiation of Demands = Demand on HP – Demand on LP.

Table 2

Means, Standard Deviations (in Parentheses), and Planned Contrasts Computed to Test the Hypotheses in Experiment 2

Dependent Variables and Planned Contrasts	Condition			
	1	2	3	4
	Angry on HP / Angry on LP	Angry on HP / Happy on LP (Fixed-Pie Congruent)	Happy on HP / Angry on LP (Fixed-Pie Incongruent)	Happy on HP / Happy on LP
FPP index	4.87 (1.95)	6.04 (1.05)	3.29 (1.71)	4.64 (1.74)
Demand on LP	6.62 (1.25)	8.17 (0.68)	6.67 (0.83)	7.10 (0.81)
Demand on HP	6.56 (1.37)	6.80 (0.87)	8.10 (0.82)	7.54 (0.84)
Differentiation of Demands	- 0.06	-1.37	1.43	0.44
Desire for Future Interaction	4.25 (1.65)	4.44 (1.63)	5.44 (1.15)	5.50 (1.10)
Contrast 1	1	0	-2	1
Contrast 2	1	-2	0	1

Note. FPP index ranges from 1 to 7, with higher scores indicating stronger fixed-pie perception.

HP = participant's high priority issue; LP = participant's low priority issue. Differentiation of Demands = Demand on HP – Demand on LP.

Appendix A

Participants' Payoff Chart in Experiment 1

Level	Quality of Monitor		Quality of Hard Disk	
	Monitor Type	Payoff	Hard Disk Type	Payoff
1	Monitor A	1	Hard Disk A	1
2	Monitor B	3	Hard Disk B	5
3	Monitor C	5	Hard Disk C	9
4	Monitor D	7	Hard Disk D	13
5	Monitor E	9	Hard Disk E	17
6	Monitor F	11	Hard Disk F	21
7	Monitor G	13	Hard Disk G	25
8	Monitor H	15	Hard Disk H	29
9	Monitor I	17	Hard Disk I	33

Appendix B

Statements Used for the Manipulation of the Counterpart's Emotion in Experiment 1

Emotion		Statement
HP	LP	After Participant's First Proposal
A	A	These offers for monitor and hard disk make me really angry
A	H	I am happy with the monitor offer, but the hard disk offer makes me really angry
H	A	I am happy with the hard disk offer, but the monitor offer makes me really angry
H	H	I am happy with these offers for monitor and hard disk
After Participant's Second Proposal		
A	A	These offers make me kinda mad
A	H	The monitor offer makes me feel good, but the hard disk offer makes me kinda mad
H	A	The hard disk offer makes me feel good, but the monitor offer makes me kinda mad
H	H	I feel good about these offers
After Participant's Third Proposal		
A	A	These offers really piss me off
A	H	I am happy with the monitor offer, but the hard disk offer really pisses me off
H	A	I am happy with the hard disk offer, but the monitor offer really pisses me off
H	H	I am happy with these offers

Note. HP = participant's high priority issue; LP = participant's low priority issue; A = Anger; H = Happiness. Statements have been translated from Dutch.

Appendix C

Participants' Payoff Chart in Experiment 2

Level	Bonus Trip		Car Type	
	Resort's Distance	Payoff	Engine	Payoff
1	7000 km	1	2200 cc.	1
2	6000 km	3	2000 cc.	5
3	5000 km	5	1800 cc.	9
4	4000 km	7	1600 cc.	13
5	3000 km	9	1400 cc.	17
6	2000 km	11	1200 cc.	21
7	1000 km	13	1000 cc.	25
8	500 km	15	800 cc.	29
9	100 km	17	600 cc.	33

Appendix D

Pictures Used for the Manipulation of the Counterpart's Emotion in Experiment 2



KDEF/AM34/AM34ANHR



KDEF/AM34/AM34ANHL



KDEF/AM34/AM34HAHR



KDEF/AM34/AM34HAHL

Note. The pictures were taken from the Karolinska Directed Emotional Faces set (Lundqvist et al., 1998). Picture names refer to the classification system of this stimulus set.